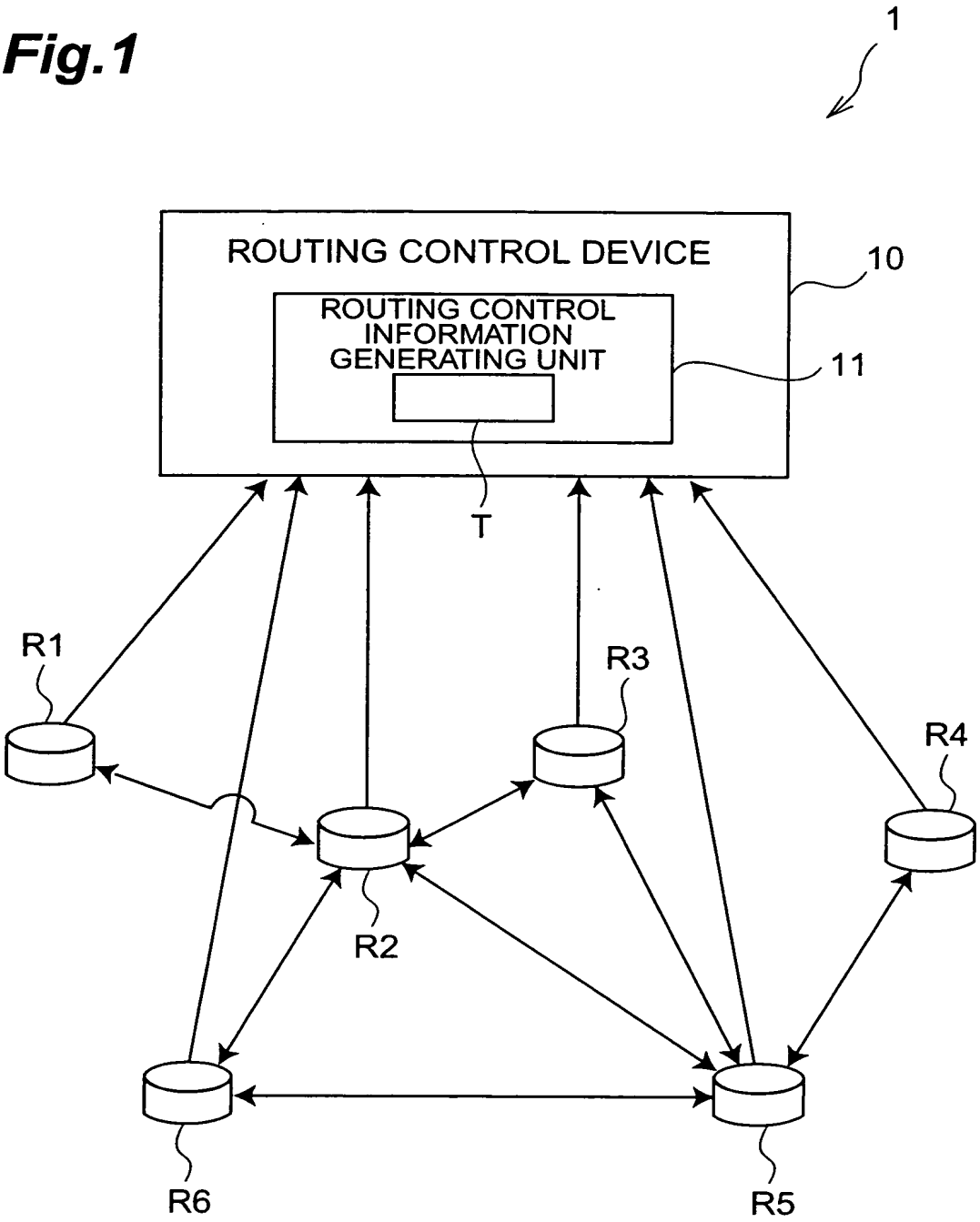
Fig.1


1
ROUTING CONTROL DEVICE
10
ROUTING CONTROL INFORMATION GENERATING UNIT
11
T
R1
R3
R4
R2
R6
R5

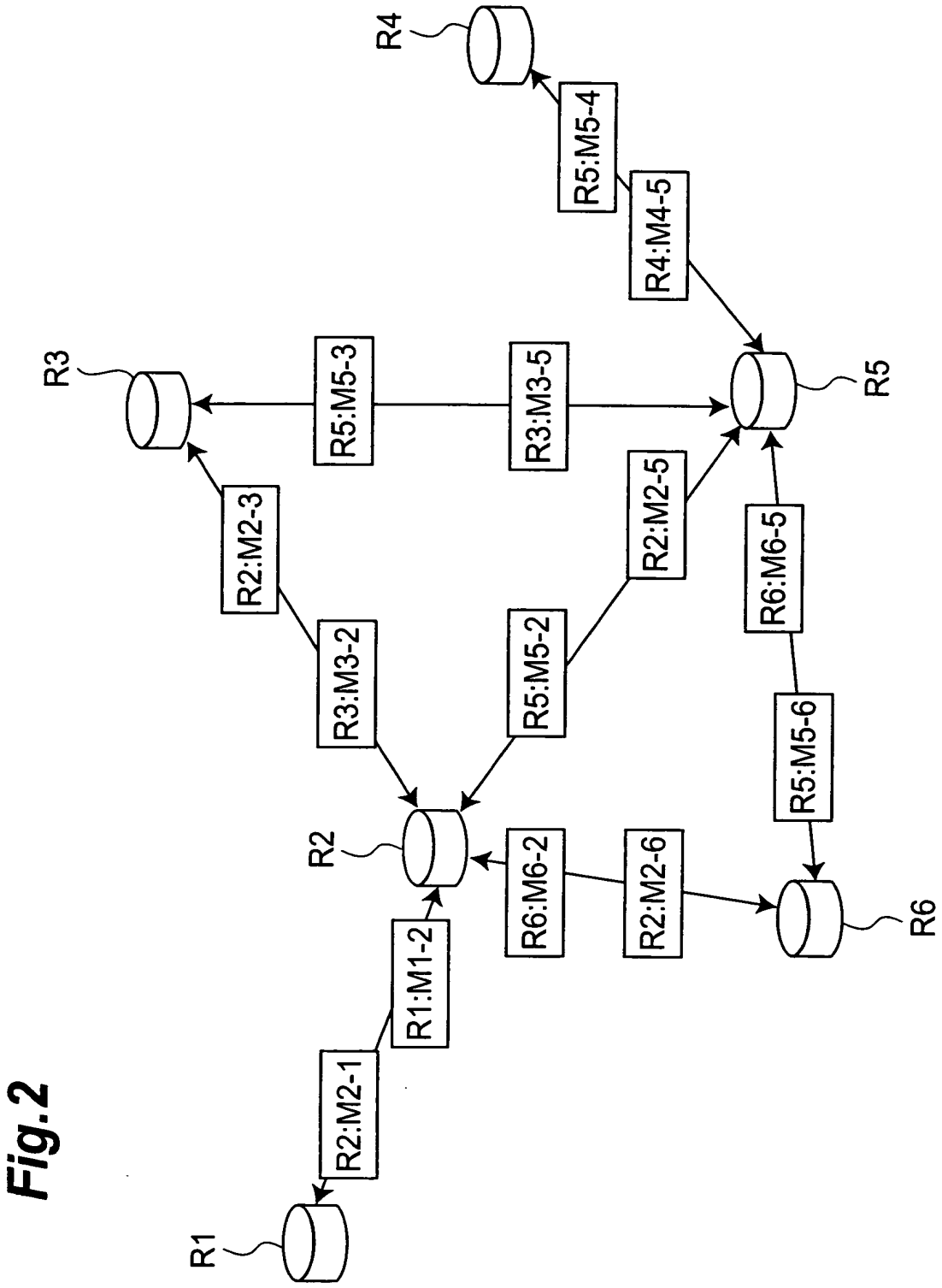

R4
R5:M5-4
R4:M4-5
R3
R5:M5-3
R3:M3-5
R5
R2:M2-3
R2:M2-5
R6:M6-5
R3:M3-2
R5:M5-2
R5:M5-6
R2
R6:M6-2
R2:M2-6
R6
R1:M1-2
R2:M2-1
R1

Fig.2

Fig.3A

R1-R2:M1-2

Fig.3B

R2-R1:M2-1
R2-R3:M2-3
R2-R5:M2-5
R2-R6:M2-6

Fig.3C

R3-R2:M3-2
R3-R5:M3-5

Fig.3D

R4-R5:M4-5

Fig.3E

R5-R2:M5-2
R5-R3:M5-3
R5-R4:M5-4
R5-R6:M5-6

Fig.3F

R6-R2:M6-2
R6-R5:M6-5

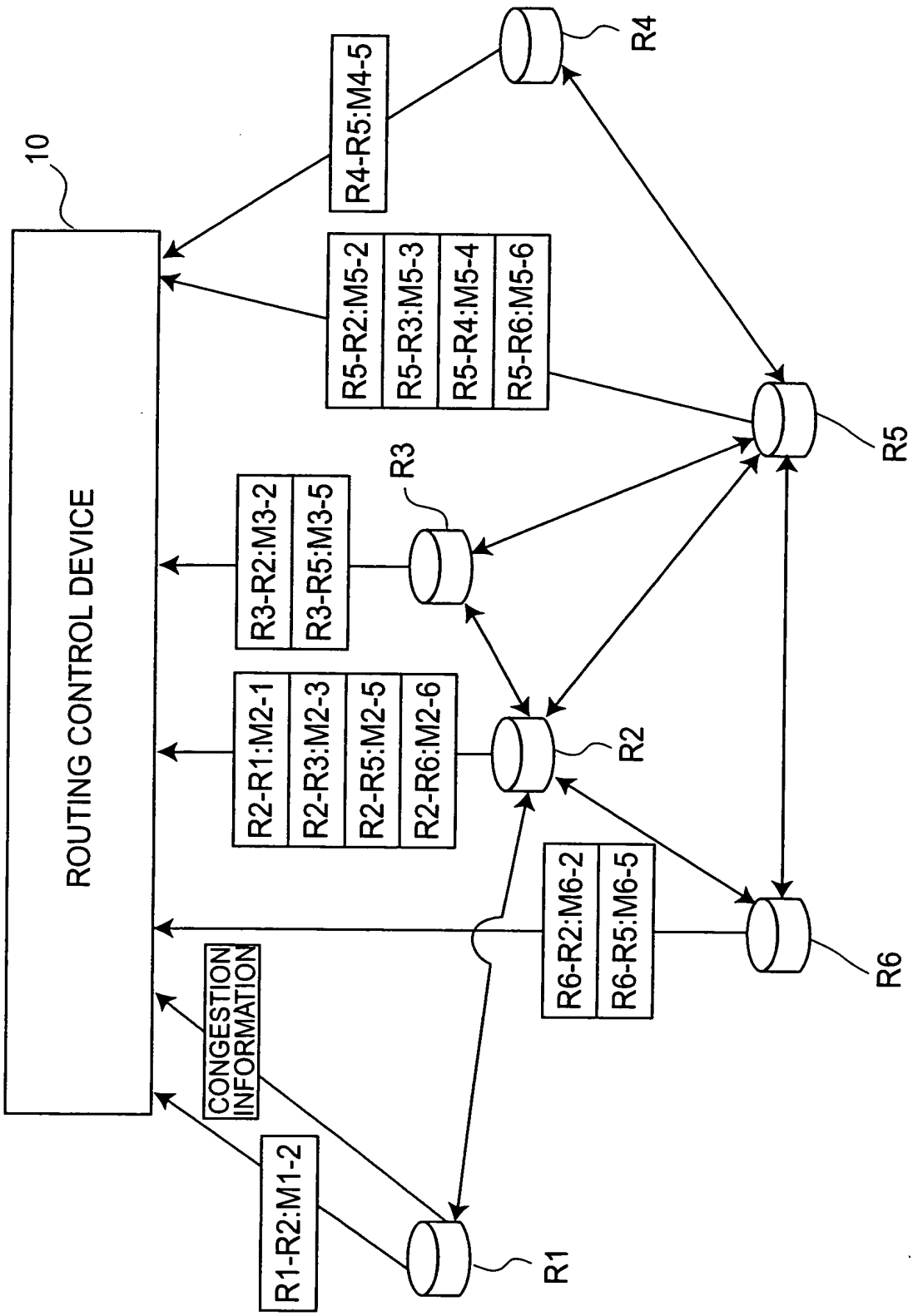

10
ROUTING CONTROL DEVICE
R4
R4-R5:M4-5
R5-R2:M5-2
R5-R3:M5-3
R5-R4:M5-4
R5-R6:M5-6
R5
R3
R3-R2:M3-2
R3-R5:M3-5
R2-R1:M2-1
R2-R3:M2-3
R2-R5:M2-5
R2-R6:M2-6
R2
R6-R2:M6-2
R6-R5:M6-5
R6
CONGESTION INFORMATION
R1-R2:M1-2
R1

Fig.4

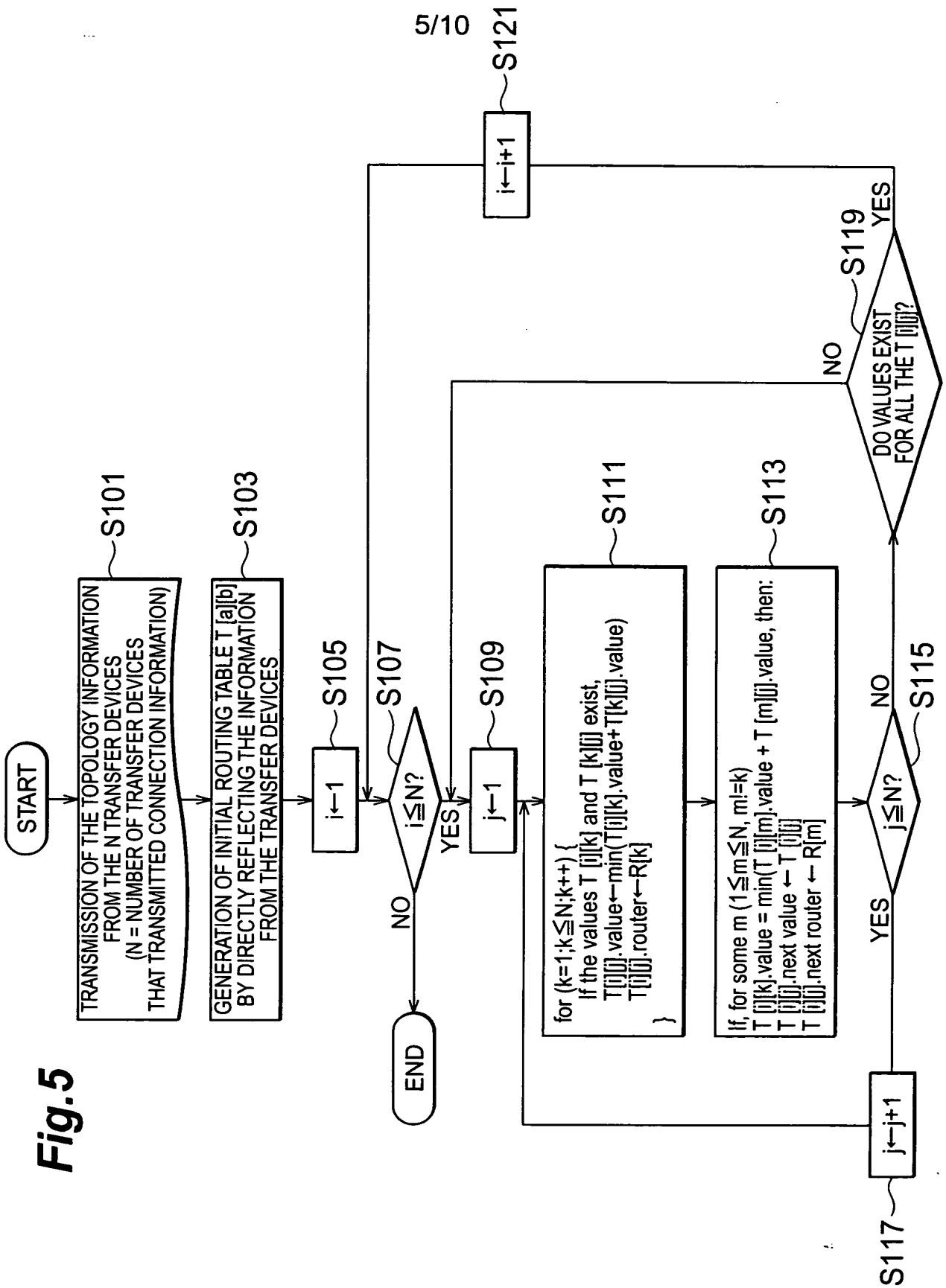

START
TRANSMISSION OF THE TOPOLOGY INFORMATION FROM THE N TRANSFER DEVICES (N = NUMBER OF TRANSFER DEVICES THAT TRANSMITTED CONNECTION INFORMATION)
S101
GENERATION OF INITIAL ROUTING TABLE T [a][b] BY DIRECTLY REFLECTING THE INFORMATION FROM THE TRANSFER DEVICES
S103
i←1
S105
i≦N?
S107
YES
NO
END
j←1
S109
for (k=1;k≦N;k++) {
If the values T [i][k] and T [k][j] exist,
T[i][j].value←min(T[i][k].value+T[k][j].value)
T[i][j].router←R[k]
}
S111
If, for some m (1≦m≦N, m!=k)
T [i][k].value = min(T [i][m].value + T [m][j].value, then:
T [i][j].next value ← T [i][j]
T [i][j].next router ← R[m]
S113
DO VALUES EXIST FOR ALL THE T [i][j]?
S119
YES
NO
j≦N?
S115
YES
NO
j←j+1
S117
i←i+1
S121

Fig.5

Fig.6

D / S	R1	R2	R3	R4	R5	R6
R1	0	M1-2				
R2	M2-1	0	M2-3		M2-5	M2-6
R3		M3-2	0		M3-5	
R4				0	M4-5	
R5		M5-2		M5-4	0	M5-6
R6		M6-2			M6-5	0

T[a][b]

Fig.7

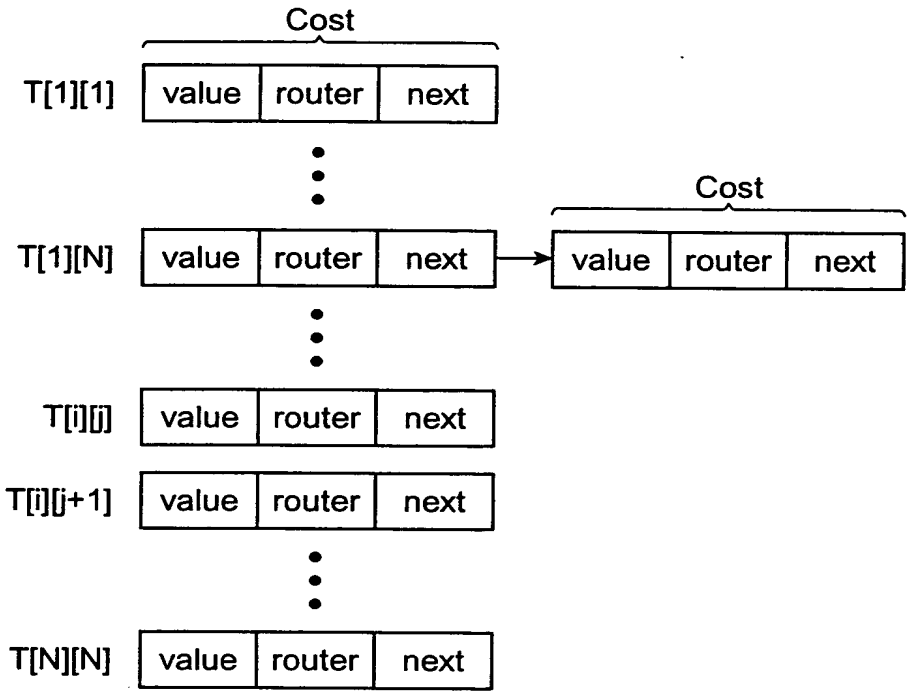

Cost
T[1][1]
value
router
next
Cost
T[1][N]
value
router
next
value
router
next
T[i][j]
value
router
next
T[i][j+1]
value
router
next
T[N][N]
value
router
next

Fig.8

S \ D	R1	R2	R3	R4	R5	R6
R1	0	M1-2 (R2)	M1-2+M2-3 (R2)	M1-2+M2-5+M5-4 (R2)	M1-2+M2-5 (R2)	M1-2+M2-6 (R2)
R2	M2-1 (R1)	0	M2-3 (R3)	M2-5+M5-4 (R5)	M2-5 (R5)	M2-6 (R6)
R3	M3-2+M2-1 (R2)	M3-2 (R2)	0	M3-5+M5-4 (R5)	M3-5 (R5)	M3-2+M2-6(R2) M3-5+M5-6(R5)
R4	M4-5+M5-2-M2-1 (R5)	M4-5+M5-2 (R5)	M4-5+M5-3 (R5)	0	M4-5 (R5)	M4-5+M5-6 (R5)
R5	M5-2+M2-1 (R2)	M5-2 (R2)	M5-3 (R3)	M5-4 (R4)	0	M5-6 (R5)
R6	M6-2+M2-1 (R2)	M6-2 (R2)	M6-2+M2-3(R2) M6-5+M5-3(R5)	M6-5-M5-4 (R5)	M6-5 (R5)	0

T

Fig.9

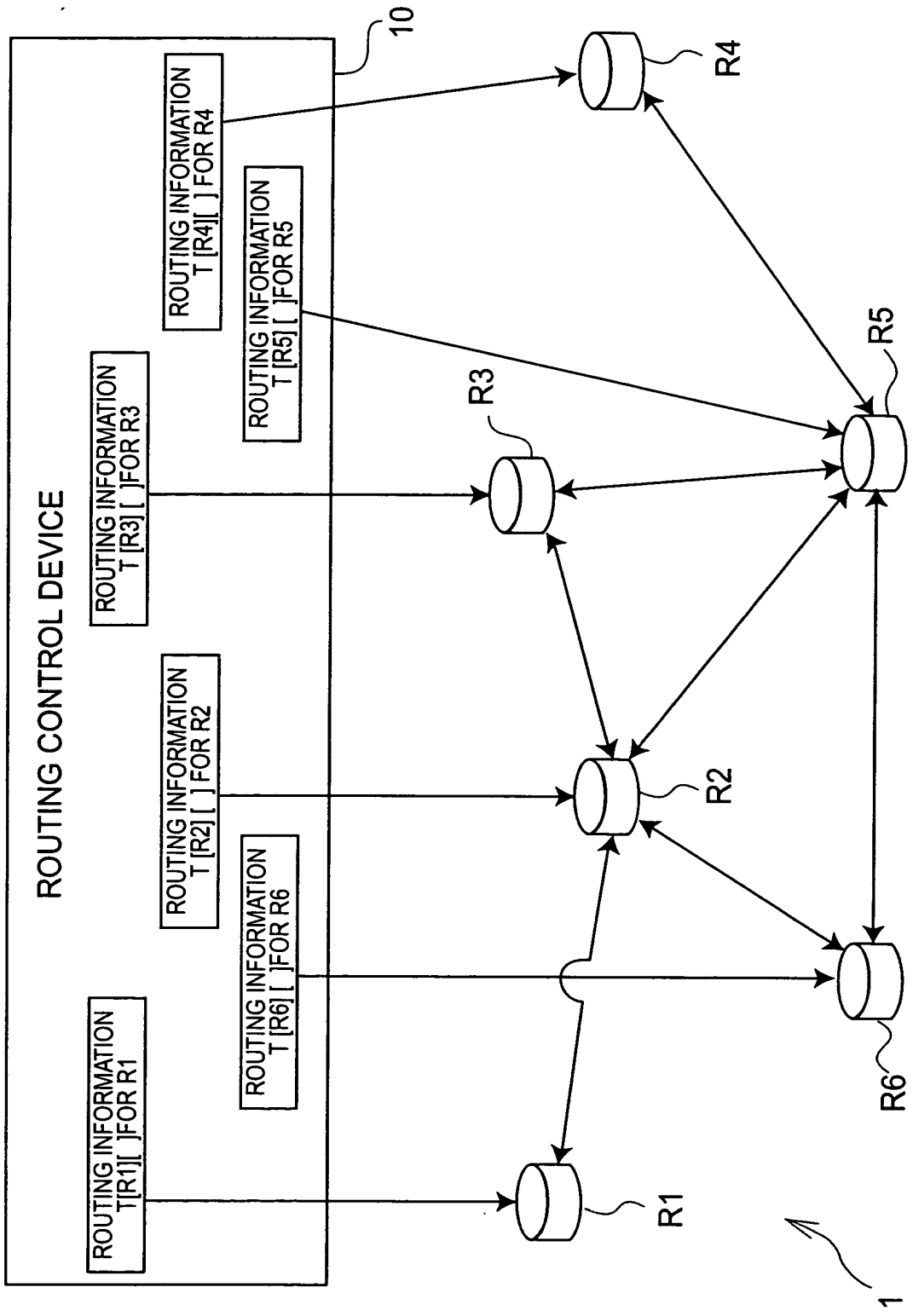
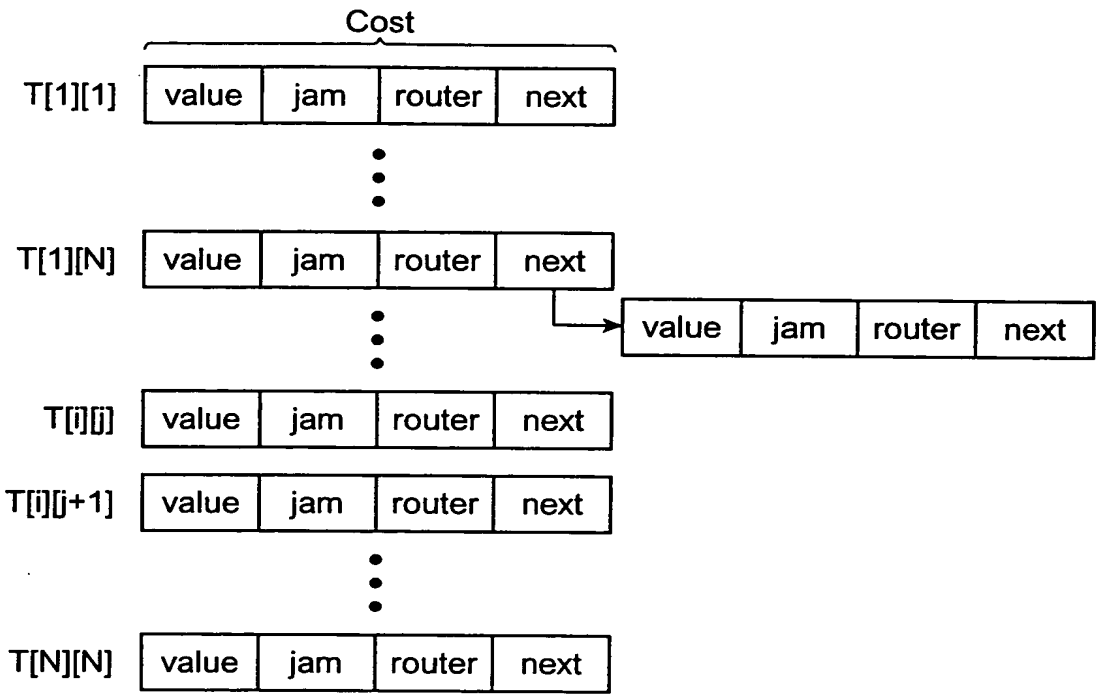

ROUTING CONTROL DEVICE
10
ROUTING INFORMATION T[R1][ ]FOR R1
ROUTING INFORMATION T [R2] [ ] FOR R2
ROUTING INFORMATION T [R3] [ ]FOR R3
ROUTING INFORMATION T [R4][ ] FOR R4
ROUTING INFORMATION T [R5] [ ]FOR R5
ROUTING INFORMATION T [R6] [ ]FOR R6
R1
R2
R3
R4
R5
R6
1

Fig.10


Cost
T[1][1]
value
jam
router
next
T[1][N]
value
jam
router
next
value
jam
router
next
T[i][j]
value
jam
router
next
T[i][j+1]
value
jam
router
next
T[N][N]
value
jam
router
next